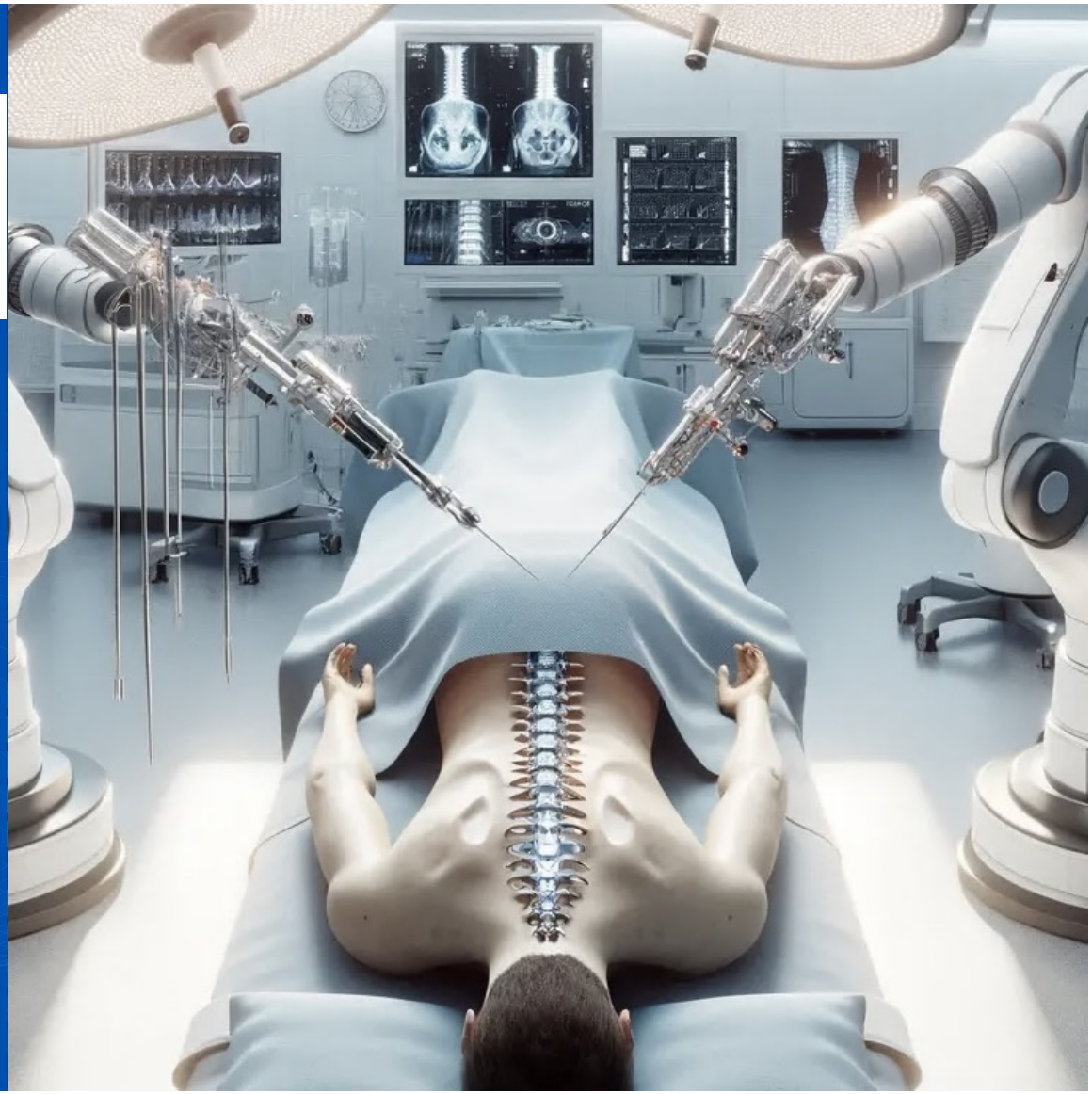
VISTA ROBOTICS

Spinenova From Vista Robotics

The World's First Active Robotic Solution For Spine Surgeries

December 2023



Today There Is No Automatic Or Robotic Solution For Discectomy And Endplate Prep. All Other Robots are Navigation Robots Only.

Current State Of The Art:
15 to 35 minutes' fatiguing work, 50% nucleus removal, spotty endplate clearance.

Minimally Invasive procedures compound the challenges.

What is discectomy and endplate prep?

VISTA ROBOTICS

The Objective:
Remove nucleus of sticky, glutenous material as well as endplate of thick membrane so that bone graft can successfully fuse.

The Challenge:
Small openings, no visibility (for minimally invasive), inefficient manual tools, unable to reach contralateral side (for minimally invasive).

Impact:
Bone fusion success is directly correlated to amount of bone exposed and nucleus removed.

Poor Results Lead To Poor Outcomes

SpineNova

VISTA ROBOTICS

The First and Only Automated Robotic Solution for Discectomy and Endplate Preparation

40%

More Disc Fragment Removal

When compared to manual discectomy (based on peer reviewed paper on previous generation technology)

<3

Minutes For Full Disc Prep

Including full discectomy and endplate preparation, compared to 15-35 minutes for manual (at $212/minute OR time)

MM

Accurate Spatial Tracking

Optical tracking down to millimeter levels with built in sensor system for safety and procedure automation

More

Complete Spinal Fusion

More complete nucleus removal and endplate prep directly contribute to better fusion outcomes

Less

Physician Fatigue

Allowing surgeons to perform more surgeries per day

The SpineNova Robotic System

Navigation And Imaging

- mm accurate alignment
- 3D tracking
- C Arm registration

Vista Robotics End Effectors

- Discectomy, screw trajectory and cage insertion
- 3D alignment mark rigid bodies for optical tracking

Robotic Arm Platform

- 7 DOF movement
- 14 kg payload
- Surgical path planning
- Collaborative robot interaction
- Integrated force sensing
- System UI and surgical path planning

Surgical Hardware

- Interbody cages
- Pedicle screws and rods
- Other instrumentation

Clinical Validation

First Successful Cadaver Lab at UCSF in Q3 2023

- POC validation of discectomy tool on robot arm
- Validation of nucleus removal
- Validation of steering mechanism for contralateral

Regular and Ongoing Trials using Cow Discs

- Best match for human anatomy
- For foundational algorithm and discectomy path planning work

Studies and Practice with First Generation Technology

- Over 20,000 surgeries performed
- Used by over 100 surgeons at over 100 hospitals worldwide
- Most active surgeons used on over 10 surgeries per month

International Adoption of First Generation Technology

- Approved in US, Japan, South Korea, EU (Germany, Italy, Turkey), Taiwan, UAE
- Product also used in Russia, Argentina, Israel, Saudi Arabia, HK, India
- 510k approvals (2 use cases) internationally, based on predicates

Peer Reviewed Article

- Dr Alphonse Lubansu, Erasme Hospital, Belgium (member of Vista's clinical board)
- "Effects of an Optimized Automated Disc Preparation on Clinical and Radiological Outcome of Minimally Invasive Transforaminal Interbody Fusion Procedure", 2013
- Demonstrated >40% improvement in discectomy, nucleus removal

Competition

Vista Robotics SpineNove Saves 20-30 Minutes Per Survey

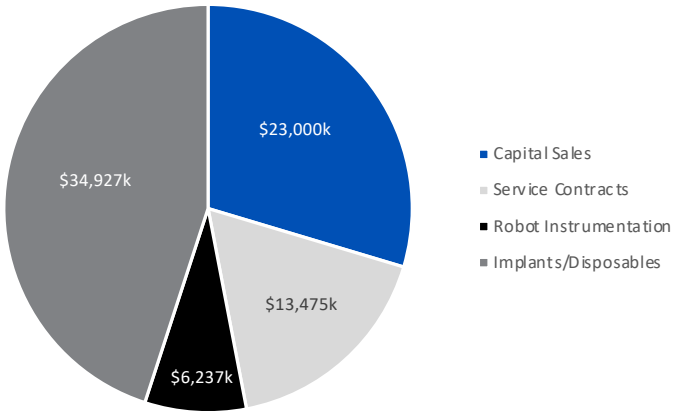
	VISTA ROBOTICS	Medtronic	GLOBUS MEDICAL	TINAVI 天智航
Automated discectomy / endplate preparation	**Yes**	No	No	No
Discectomy Time	**5 minutes or less**	15-35 mins (manual)	15-35 mins (manual)	15-35 mins (manual)
Setup and Registration	**5-7 minutes**	20-25 minutes	10-12 minutes	10-12 minutes
Physician Fatigue	**Greatly reduced**	No relief	No relief	No relief
System Price	**As low as $500K**	$2.25M	$1.75M	$1.2M
Scope of Applications	**Multiple procedures**	Screw trajectory only	Screw trajectory only	Screw trajectory only
Decompression / Interbody placement	**Yes**	No	No	No
Pedicle screw trajectory	**Yes**	Yes	Yes	Yes

Business Model

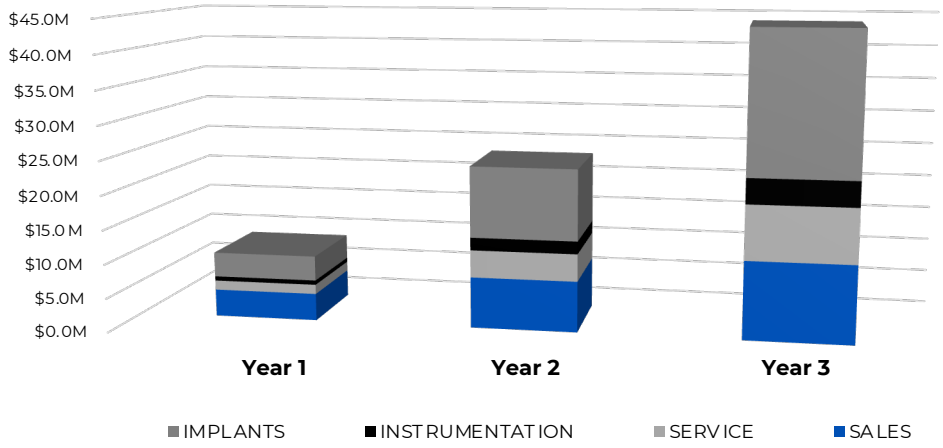
Capital Sales & Recurring Revenues

Projected 3 Year Revenue	Year 3 Revenue	Year 3 Recurring Revenue	Year 3 Gross Margins
$77.6M	**$44.1M**	**74%**	**>70%**

Vista Robotics First 3 Year Total Revenue Projection



Vista Robotics Revenue Projections



Assumptions: 8, 15, 23 systems sold in years 1, 2 and 3; 54 surgeries/system/year, implants/disposables bundled with robotic instrumentation for each surgery. Penetration Year 3 total sales is 0.5% of the US market

Clinical Advisors

Meet Our Clinical Team

Dr Brad Jones

Dignity Health

- Orthopedic spine surgery specialist
- A Medtronic Mazor trainer for more than ten years
- Used the first generation of the Vista solution on more than 300 surgeries.

Dr Lee Tan

UCSF

- Will lead Vista's upcoming cadaver lab at UCSF
- Expertise in minimally invasive surgical techniques.
- Long time user of Medtronic and Globus systems

Dr Avery Buchholz

UVA

- Complex spine surgery, with a specific focus on minimally invasive spine surgeries.
- One of the lead trainers in the US on the Medtronic Mazor system

Dr Kingsley Abode

Mayo Clinic

- Specializing in complex spinal deformity
- Advocate for "Awake" MIS TLIF
- Currently director of Spine and Spinal Deformity

Dr Alphonse Lubansu

Erasme Hospital, Belgium

- Clinical Director and Chief Surgeon of the Spine Clinic.
- 18 years' experience collaborating with medical device companies, including Vista founders.
- Authored peer-reviewed study of the Gen1 technology

Team

Meet Our Core Team

Sing-fat Chin

Co-Founder, Chairman

33 years as inventor for medical devices, three exits

SpineView | GUIDANT | stryker

Christie Wang

Co-Founder, CEO

10 years as medical device entrepreneur

ADCURA | HEWLETT PACKARD

Peter Himes

VP Business Development

33 years of international business development and strategic alliances

Haier | silex | winbond

Kai Ying

VP Operations

20+ years operation and general management

CYPRESS | NORTEL

Nima Masoumi

Software Lead

10 years in C-arm image-assisted surgical navigation

Concordia

Brian Hauck

Hardware Lead

20+ years operation and general management

Agilent

VISTA ROBOTICS

Thank You For Your Attention

Christie Wang, CEO

cwang@vistarobotic.com

1701 Fortune Drive Suite E San Jose, CA 95131